City of Sunnyvale

Ten Year Project Costs

by Project Category and Type

Project Number	Project Name	Prior Years Actual	Revised Budget 2004-05	Plan 2005-06	Plan 2006-07	Plan 2007-08	Plan 2008-09	Plan 2009-10	Plan 2010-11	Plan 2011-12	Plan 2012-13	Plan 2013-14	Plan 2014-15	Ten Year Plan Total	**Project Grand Total**
Category:	**Capital**														
Type:	**Sanitary Sewer**														
805202	Sewer Development Costs (City Share)														
		0	38,117	38,000	38,760	39,535	40,326	41,132	41,955	42,794	43,650	44,523	45,414	416,089	454,206
811700	Oxidation Pond Levee Improvements														
		721,680	828,522	0	0	0	0	0	0	0	0	0	0	0	1,550,202
812750	WPCP Energy Improvements														
		220,058	259,600	0	0	0	0	0	0	0	0	0	0	0	479,658
824320	Toe Berm for Biosolids Monofill														
		1,838	53,162	0	0	0	0	0	0	0	0	0	0	0	55,000
824950	WPCP Laboratory Roof Replacement														
		0	152,605	0	0	0	0	0	0	0	0	0	0	0	152,605
825520	Pond Sediment Removal														
		0	0	300,000	664,020	677,300	690,846	704,663	718,757	733,132	747,794	762,750	778,005	6,777,267	6,777,267
Total		943,576	1,332,006	338,000	702,780	716,835	731,172	745,795	760,712	775,926	791,444	807,273	823,419	7,193,356	9,468,938

Note: Projects with $0 Grand Total have budgets in the second ten years of the Twenty Year Plan.

Project Information Sheet

Project: 805202 Sewer Development Costs (City Share)

Category:	Capital	Type:	Sanitary Sewer	Department:	Public Works
Origination Year:	1999-00	Phase:	Ongoing	Project Manager:	Hira Raina
Planned Completion Year:	Ongoing	% Complete:	n/a	Project Coordinator:	Barbara Keegan
Origin:	Staff			Interdependencies:	none

Element:	3 Environmental Management	Goal:	3.3B	Fund:	455 Utilities
Sub-Element:	3.3 Sanitary Sewer System	Neighborhood:	City Wide	Sub-Fund:	300 Wastewater Management

Project Description and Statement of Need

The purpose of this project is to pay the City's pro-rata share for oversizing sanitary sewers constructed by private developers.

Service Level

no service level effect

Issues

See project 805200 and 805201 for prior expenditure history.

Project Financial Summary

Financial Data	Prior Actual	Budget 2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	10 Year Budget	Grand Total
Project Costs	0	38,117	38,000	38,760	39,535	40,326	41,132	41,955	42,794	43,650	44,523	45,414	416,089	454,206
Revenues														
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transfers-In														
Fund Reserves		38,117	38,000	38,760	39,535	40,326	41,132	41,955	42,794	43,650	44,523	45,414	416,089	
Total	0	38,117	38,000	38,760	39,535	40,326	41,132	41,955	42,794	43,650	44,523	45,414	416,089	454,206
Operating Costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Project Information Sheet

Project: 811700 Oxidation Pond Levee Improvements

Category:	Capital	Type:	Sanitary Sewer	Department:	Public Works
Origination Year:	1993-94	Phase:	Construction	Project Manager:	Hira Raina
Planned Completion Year:	2005-06	% Complete:	30	Project Coordinator:	Dan Hammons
Origin:	Staff			Interdependencies:	none

Element:	3 Environmental Management	Goal:	3.3C	Fund:	455 Utilities
Sub-Element:	3.3 Sanitary Sewer System	Neighborhood:	City Wide	Sub-Fund:	300 Wastewater Management

Project Description and Statement of Need

This project was developed to complete modifications necessary to maintain the functionality of the Water Pollution Control Plant's Biological Ponds, which are vital to process wastewater for the City of Sunnyvale. Modifications were based on a 1987 Pond study completed by EOA, Inc., and the project has incorporated a staged implementation of several improvements. Completed projects include the raising of the outer levee on Pond #1 and raising the West Main dyke on Pond #2.

The remaining funds will be used to complete plans and specifications to raise the inner levee and perform the evaluation of the transfer tubes. The two oxidation ponds are bounded by levees with inflow and outflow transfer tubes. The levees are founded on soft bay mud soils and must periodically be raised to maintain proper flood control elevations and provide safe roads for inspection or process monitoring. Also, the aging metal transfer tubes must be relined to maintain structural integrity and flow rates demanded by the treatment process. This evaluation will define the need to repair or replace the 18 transfer tubes along with the hydraulic effects of the proposed changes. The work includes the necessary surveying and mapping, geotechnical and civil engineering, permit assistance, engineering support along with cost estimates for raising the levee 1-2 feet and rehabilitating the transfer tubes.

Service Level

The project maintain compliance with discharge regulations during future operation of the treatment plant.

Issues

See RTC # 04-341, Budget Modification #6.

Costs for 04/05 were increased to a revised budget of $780,000.

Project Financial Summary

Financial Data	Prior Actual	Budget 2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	10 Year Budget	Grand Total
Project Costs	721,680	828,522	0	0	0	0	0	0	0	0	0	0	0	1,550,202
Revenues														
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transfers-In														
Fund Reserves		828,522	0	0	0	0	0	0	0	0	0	0	0	
Total	721,680	828,522	0	0	0	0	0	0	0	0	0	0	0	1,550,202
Operating Costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Project Information Sheet

Project: 812750 WPCP Energy Improvements

Category:	Capital	Type:	Sanitary Sewer	Department:	Public Works
Origination Year:	1987-88	Phase:	Construction	Project Manager:	Hira Raina
Planned Completion Year:	2004-05	% Complete:	0	Project Coordinator:	John Addeo
Origin:	Staff			Interdependencies:	none

Element:	3 Environmental Management	Goal:	3.3C	Fund:	455 Utilities
Sub-Element:	3.3 Sanitary Sewer System	Neighborhood:	City Wide	Sub-Fund:	300 Wastewater Management

Project Description and Statement of Need

This project is ready for bidding. Engineering and design work have been completed. The construction will result in efficient transfer of recoverable algae float solids from the air floatation units to the anaerobic digesters. These solids will produce additional methane gas that will be available for production of power to meet all plant needs and export any excess electricity produced to the grid.

Service Level

no service level effect

Issues

See RTC# 04-341, Budget Modification #6

Additional funds were added to bring the budget for this project in FY 04-05 to $259,600.

Project Financial Summary

Financial Data	Prior Actual	Budget 2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	10 Year Budget	Grand Total
Project Costs	220,058	259,600	0	0	0	0	0	0	0	0	0	0	0	479,658
Revenues														
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transfers-In														
Fund Reserves		259,600	0	0	0	0	0	0	0	0	0	0	0	
Total	220,058	259,600	0	0	0	0	0	0	0	0	0	0	0	479,658
Operating Costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Project Information Sheet

Project: 824320 Toe Berm for Biosolids Monofill

Category:	Capital	Type:	Sanitary Sewer	Department:	Public Works
Origination Year:	2003-04	Phase:	Construction	Project Manager:	Mark Bowers
Planned Completion Year:	2003-04	% Complete:	95	Project Coordinator:	Gail Bentley
Origin:	Staff			Interdependencies:	none

Element:	3 Environmental Management	Goal:	3.2H	Fund:	455 Utilities
Sub-Element:	3.3 Sanitary Sewer System	Neighborhood:	City Wide	Sub-Fund:	200 Solid Waste Management

Project Description and Statement of Need

The toe berm has been identified as a necessary precursor to the safe use of the Biosolids Monofill area. Disposal of high moisture content wastes is anticipated to occur in the Monofill area. Due to the topography of the area and the proximity of Caribbean Drive, it has been deemed necessary to construct a berm at the southern end of the Monofill to ensure waste stability. This will allow the safe use of the Biosolids Monofill.

Service Level

None

Issues

There is concern that use of the Monofill without the construction of the toe berm could, in the event of a sufficient seismic event, result in rapid movement of the materials in the Monofill onto Caribbean Drive.

Project Financial Summary

Financial Data	Prior Actual	Budget 2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	10 Year Budget	Grand Total
Project Costs	1,838	53,162	0	0	0	0	0	0	0	0	0	0	0	55,000
Revenues														
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transfers-In														
Fund Reserves		53,162	0	0	0	0	0	0	0	0	0	0	0	
Total	1,838	53,162	0	0	0	0	0	0	0	0	0	0	0	55,000
Operating Costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Project Information Sheet

Project: 824950 WPCP Laboratory Roof Replacement

Category:	Capital	Type:	Sanitary Sewer	Department:	Public Works
Origination Year:	2004-05	Phase:	Planning	Project Manager:	Hira Raina
Planned Completion Year:	2004-05	% Complete:	0	Project Coordinator:	Dan Hammons
Origin:	Staff			Interdependencies:	none

Element:	3 Environmental Management	Goal:	3.3C	Fund:	455 Utilities
Sub-Element:	3.3 Sanitary Sewer System	Neighborhood:	City Wide	Sub-Fund:	300 Wastewater Management

Project Description and Statement of Need

The laboratory roof is past its projected 20-year life and leaks. This building houses a large amount of expensive analytical equipment and staff that require protection from the elements. The 5700-square-foot lab roof and the 1310-square-foot roof that covers the operation control panels will be replaced in this project. The construction contract for this project has been awarded.

Service Level

none

Issues

This is a high priority as the roof has leaked in the past.

Project Financial Summary

Financial Data	Prior Actual	Budget 2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	10 Year Budget	Grand Total
Project Costs	0	152,605	0	0	0	0	0	0	0	0	0	0	0	152,605
Revenues														
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transfers-In														
Fund Reserves		152,605	0	0	0	0	0	0	0	0	0	0	0	
Total	0	152,605	0	0	0	0	0	0	0	0	0	0	0	152,605
Operating Costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Project Information Sheet

Project: 825520 Pond Sediment Removal

Category:	Capital	Type:	Sanitary Sewer	Department:	Public Works
Origination Year:	2005-06	Phase:	Construction	Project Manager:	Hira Raina
Planned Completion Year:	2010-11	% Complete:	25	Project Coordinator:	Dan Hammons
Origin:	Staff			Interdependencies:	none

Element:	3 Environmental Management	Goal:	3.3C	Fund:	455 Utilities
Sub-Element:	3.3 Sanitary Sewer System	Neighborhood:	City Wide	Sub-Fund:	300 Wastewater Management

Project Description and Statement of Need

The oxidation ponds provide secondary treatment using natural action of sun and wind to facilitate the growth of algae, which takes up dissolved waste from the wastewater. Algae is removed later in the Water Pollution Control Plant process and returned to the ponds. No solids have been removed from the ponds since inception of secondary treatment in the late 1960's. The current accumulation of solids is estimated at 35% to 45% of the pond volume. A pilot study was recently completed to assess a removal methodology. Costs for pond sediment removal were originally estimated at $25 to $30M, but have now been revised, based on the pilot study, to approximately $14M. The unit cost to remove accumulated pond solids is estimated, from the pilot study, to be $540 per dry ton, with a goal for removal of 26,000 tons. This unit cost is based on the work being accomplished under one contract.

The project evaluates an in-house project (equipment purchase, internal operation) versus contracting out, preparation of the bid package in FY 05-06, and solids removal each year thereafter until the recommended reduction is achieved. Work to remove solids should be initiated as soon as possible to mitigate risks. Conditions could also change in the future and the value of the pilot study could be lost. One risk is odor release. Wind action on solids near the surface can release hydrogen sulfide gas (rotten egg smell). Such an event occurred in the early 1990's. Another risk is that of exceeding ammonia effluent limits. To meet the ammonia limits, flow through the tertiary plant is reduced during the summer when ammonia levels are at their highest, and the excess flow is held in the ponds. Exceedances of limits result in mandatory fines. Replacement of the ponds with conventional secondary treatment of aeration basins and clarifiers is estimated to cost approximately $100 million for capital and $1 million annually for power, and thus would be a more costly alternative.

Service Level

None.

Issues

None.

Project Financial Summary

Financial Data	Prior Actual	Budget 2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	10 Year Budget	Grand Total
Project Costs	0	0	300,000	664,020	677,300	690,846	704,663	718,757	733,132	747,794	762,750	778,005	6,777,267	6,777,267
Revenues														
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transfers-In														
Fund Reserves		0	300,000	664,020	677,300	690,846	704,663	718,757	733,132	747,794	762,750	778,005	6,777,267	
Total	0	0	300,000	664,020	677,300	690,846	704,663	718,757	733,132	747,794	762,750	778,005	6,777,267	6,777,267
Operating Costs	0	0	0	0	0	0	0	0	0	0	0	0	0	0